

**Finley, John P.**

Bibliography of the professional papers, books, monographs, articles, charts, graphs and lectures on the subjects of meteorology, climatology, weather, crop and social insurance from 1880 to 1925. New York. 1925. 43 p. illus. 16½ cm.

**[Great Britain.] Dept. scientific & industrial research. Food investigation board.**

Measurement of humidity in closed spaces. London. 1925. vi, 54 p. illus. plate. 24½ cm. (Spec. rep. no. 8, by the Engin. comm. of the board.)

**Great Britain. Ministry of agriculture and fisheries.**

Agricultural meteorological scheme. Instructions to observers [with various special instructions and specimen forms.] [London. 1925.] v. p. 34 cm. [Manifolded.]

**Hibbard, R. P.**

Frost protector for early planting. no. 2 . . . p. 137-141. illus. 23½ cm. (Mich. agric. exper. sta. Quart. bull. v. 8, no. 3, Feb., 1926.)

**Hoek, Henry.**

Wetter, Wolken, Wind. Ein Buch für jedermann. Leipzig. 1926. 253 p. plates. 19½ cm.

**Keränen, J.**

On the dependence of the harvest upon the temperature in the foregoing winter and May. Helsinki. 1925. 8 p. 24½ cm. (Mitt. met. Zentralanst. finn. Staates. N:o 15.)

**Klein, Paul, & Sanson, Joseph.**

Météorologie et physique agricoles. Paris. 1925. 464 p. illus. 18½ cm.

**Kohlrörster, Werner.**

Weitere Messungen der durchdringenden Strahlung am Jungfraujoch. p. 120-125. plate. 25½ cm. (Sitzungsber. preuss. Akad. Wissensch. 7. 1925. Sitzung phys.-math. Kl. 26. Feb.)

**Koschmieder, Harald.**

Die Ergebnisse der deutschen Höhenwindmessungen in Palästina 1917-1918. Frankfort a. M. [1924.] 30 p. figs. plates (fold.) 23½ cm. (Zum Klima der Türkei. Ergebnisse dreijähriger Beobachtungen 1915-1918. H. 3.)

**Leighly, John B.**

Graphic studies in climatology. 1. Graphic representation of a classification of climates. Berkeley. 1926. p. 55-71. figs. 27½ cm. (Univ. Cal. pub. geogr. v. 2, no. 3, Feb. 24, 1926.)

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Våra väderleksförutsägelser. Stockholm. 1926. 16 p. figs. 17 cm. (Tidens kalender, 1926)

**Lwów. Université. Institut de géophysique et de météorologie.**

Communications. Nos. 1 à 18 des résultats des recherches de Henryk Arctowski et de ses collaborateurs ... faites à la Société des naturalistes polonais et publiées dans la revue "Kosmos": v. 46-50. 1922-1925. n. p. n. d. v. p. figs. 22½ cm. [Polish text: French abstract.]

**Maurain, Ch.**

Sur la propagation des ondes aériennes. (Expériences de La Courtine.) Paris. 1926. viii, 49 p. illus. 31½ cm. (Annales de l'Inst. de phys. du globe.)

**National underwriter.**

Hail and tornado insurance number. [New York.] 1926. 36 p. illus. 34½ cm. [Contains article by John P. Finley, Tornado occurrence and distribution. p. 29-30, 32-33.]

**Negro, Carlo.**

Elettricità atmosferica ... Milano. 1926. xvi, 299 p. illus. 24 cm.

**Peppler, Albert, & Peppler, Wilhelm.**

Beiträge zum Strahlungsklima Badens. (1. Teil.) I. Messungen der Intensität der direkten Sonnenstrahlung in Karlsruhe, St. Blasien und auf dem Feldbergobservatorium im Schwarzwald. II. Der Sonnenschein in Baden. Karlsruhe. 1925. 50 p. figs. 28 cm. (Veröffentl. der Badischen Landeswetterwarte. Nr. 7.)

**Pfeiffer, Robert.**

Die Verteilung der Jahreszeiten im tropischen nordäquatorialen Afrika. [3 p.] diagr. 33 cm. (Inaug.-Dissert. Hessisch Landesuniv. zu Giessen.)

**Roth, Rudolf.**

Ueber die Beziehungen zwischen Niederschlag und Abfluss im Reussgebiete. Basel. 1923. 127 p. maps (fold.) 22 cm. (Inaug.-Dissert. Univ. Basel.)

**Spencer, H. A.**

Sub-tropical meteorology in the Transvaal. p. 100-104. illus. 28 cm. [Discovery, v. 7, March 1926.]

**Sutton, L. J.**

Climate of Helwan. Cairo. 1926. 82 p. plates. 28 cm. (Min. pub. works, Egypt. Phys. dept. paper no. 20.)

**U. S. Bureau of standards.**

Relations between the temperatures, pressures, and densities of gases. Washington. 1926. 85 p. figs. 25½ cm. (Circ. Bur. standards, no. 279.)

**[U. S. Chief coordinator.]**

Preliminary report of committee appointed by the chief coordinator for the coordination of government meteorological work. [Washington. 1926.] 20 p. 27 cm.

**U. S. egg society.**

Century of Chicago weather. Monthly variations from mean normal temperature for 96 years, showing the long-time swings between warm and cold periods. Compiled from U. S. official meteorological tables and from unofficial data used by the Weather Bureau for years prior to 1871. Chicago. n. d. 1 sheet. chart. 25 x 65 cm.

**Verhandlungen der klimatologischen Tagung in Davos 1925.**

Veranstaltet vom Schweizerischen Institut für Hochgebirgsphysiologie und Tuberkuloseforschung in Davos. Basel. n. d. vii, 576 p. illus. plate. 25 cm.

**Wallén, Axel.**

Nils Gustaf Ekholm. Minnestreckning. Upsala. 1925. p. 273-285. port. 22 cm. (K. Svenska vetenskapsak. årsbok, 1925.)

Till kännedom om Norrlands lokalklimat. p. 368-378. illus. 23½ cm. (Ymer, Tidskrift Svenska sällskapet för antropologi och geografi. Årg. 1925. H. 3 O. 4.)

**Watson, W. & sons, Ltd.**

Watson's scientific instruments, being a catalogue and work of reference combined, invaluable to the user of instruments of this class. London. 1926. v. p. illus. 21½ cm.

**Wegener, Kurt, & Robitzsch, Max.**

Ergebnisse der Fesselaufstiege während der Überwinterung 1912/13. Braunschweig. 1916. 20 p. plates. 20 cm. (Veröffentl. Deutschen observ. Ebeltofshafen-Spitzbergen. Heft 4.)

**Wiedemann, Edhard.**

Über Erscheinungen bei der Dämmerung und bei Sonnenfinsternissen nach arabischen Quellen. p. 43-52. 23 cm. Sonderab. Arch. f. Gesch. d. Med. Bd. 15.)

**Wiley, Harvey W.**

As we breathe. Does motion alone purify it? Is "washing" satisfactory? p. 89, 272, 274, 276, 278. illus. 30 cm. [Good housekeeping, v. 82, Apr., 1926.]

**RECENT PAPERS BEARING ON METEOROLOGY**

The following titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

**Aérophile. Paris. 34 année. Avril 1926.**

C., H. Une remarquable étude du lieutenant Thoret. p. 110-111. [Describes motion pictures of air currents made visible by silk threads in a wind tunnel, illustrating effects of surface topography on winds.]

**American meteorological society. Bulletin. Worcester, Mass. v. 7. February, 1926,**

Alter, Dinsmore. Application of Schuster's periodogram to rainfall periods between two and a sixth and nine years. p. 22-23. [Abstract.]

Barron, William E. Climatic aspects of cotton growing in southern Illinois and Missouri. p. 24-25. [Abstract.]

Belden, W. S. Floods in the middle Missouri river. p. 29. [Abstract.]

Humphreys, Willian J[ackson]. A critical examination of the alleged effects of the planets on the weather. p. 24. [Abstract.]

Humphreys, W[illiam] J[ackson]. An unusual display of the mammato-cumulus. p. 23-24. [Abstract.]

Jensen, J. C. Potential gradient observations on a typical Nebraska thunderstorm. p. 25-26. [Abstract.]

Jensen, J. C. Some relations between radio reception and weather conditions. p. 26-27. [Abstract.]

Laskowski, B. R. Exposure of rain gages. p. 28. [Abstract.]

Lindgren, G. S. Fire weather in the Adirondacks. p. 30-31.

Marvin, Charles F. The value of pyrheliometric readings alone for investigations on solar radiation and weather forecasting. p. 21-22. [Abstract.]

- American society of heating and ventilating engineers. *Journal*. New York. v. 32. May, 1926.
- McConnell, W. J., & Yaglou, C. P. Work tests conducted in atmospheres of low temperatures in still and moving air. p. 375-386.
- Annalen der Hydrographie und maritimen Meteorologie. Berlin. 54. Jahrgang. Februar 1926.
- Georgii, Walter. W. Köppen und A. Wegener: Die Klimate der geologischen Vorzeit. p. 33-36.
- Paulus, A. Schiffahrt und Eis. p. 42-54.
- Annalen der Physik. Leipzig. Band 79. 1926.
- Schneider, Ernst. Über die Wärmeleitung von Luft und Wasserstoff. p. 177-203. (No. 3.)
- Vegard, L. Das Leuchten verfestigter Gase and seine Beziehungen zu kosmischen Vorgängen. p. 377-441. (No. 5.)
- Association française pour l'avancement des sciences. Conférences. 48. session. Liège. 1924.
- Chaptal, L. La diffusion des avertissements agricoles dans le midi de la France. p. 351-353.
- Henry, A. Sur l'actinomètre d'Argo pendant l'éclipse partielle de soleil, du 8 avril 1921. p. 371-377.
- Jaumotte, J. Determination du poids de vapeur d'eau par kilog. d'air en fonction de la température, de la pression et de l'humidité relative. p. 358-361.
- Maurain, Ch. Propagation dans le sol et dans l'air des ondes produites par de fortes explosions. p. 362-364.
- Saint-Paul, F. Anduze de. Abaque pour la détermination du point de rosée et de la tension de la vapeur d'eau dans l'air. p. 354-358.
- Association of American geographers. Annals. Albany. v. 16. March, 1926.
- Fassig, Oliver L. Rainfall in the Caribbean region. p. 25. [Abstract.]
- Trewartha, Glen T. Recent thought in white acclimatization in the wet tropics. p. 36-37. [Abstract.]
- Astronomical society of the Pacific. Publications. San Francisco. v. 38.
- Perrine, C. D. On the cause of the "green flash" seen at sunset. p. 134-136.
- Astrophysical journal. Chicago. v. 63. April, 1926.
- Douglass, A. E. Photograph of shadow bands. p. 188-190.
- Menzel, D. H., Coblenz, W. W., & Lampland, C. O. Planetary temperatures derived from water-cell transmissions. p. 177-187.
- British astronomical association. Journal. London. v. 36. March, 1926.
- Burns, Gavin J. Auroræ and rotation of the sun. p. 185-186.
- Ciel et terre. Bruxelles. 42 année. Janvier 1926.
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- France. Académie des sciences. Comptes rendus. Paris. t. 182. 3 mai 1926.
- Dauzère, C. Sur la formation de la vase atmosphérique et de la mer de nuages. p. 1094-1096.
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- Svensson, Aron. Zur Psychrometerfrage. p. 140-146.
- Tichanowsky, J. J. Zur Frage nach der Einwirkung von Staub und Feuchtigkeit auf die Himmelssolarisation. p. 154-155.
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**Andreotti, Amedeo.** Varizioni orarie dell' andamento pluviometrico de Napoli. p. 1-9.

**Bellugi, Arnaldo.** Sul calcolo della temperatura media in Italia. p. 10-13.

**Bagnini, P.** Sul miraggio. p. 13-14.

*Technique aéronautique. Paris. 17 année. 15 avril 1926.*

**Huguenard, E., Magnan, A., & Planiol, A.** Recherches expérimentales sur les conditions de vol des oiseaux et des avions. p. 103-118; [Describes new apparatus used in study of wind velocity, structure, etc.]

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**Szolnoki.** Eine Nachprüfung von Franz Baurs langfristigen Temperaturvorhersagen. p. 308-309.

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**Nutting, P. G.** Pressures in planetary atmospheres. p. 254-258.

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**Fagermo, Martin.** Schiefe oder verdrehte Haloerscheinungen. p. 32-39. (Februar.)

**Schwabe, G.** Das Klima des nordwestdeutschen Binnenlandes. p. 25-32. (Februar.)

**Fischer, Rudolf.** Die höchste bisher beobachtete Lufttemperatur auf der Erde. p. 72. (März.)

**Fischer, Rudolf.** Starke Kälte nach verbreiteten Schneefällen anfang Dezember 1925. p. 59-60. (März.)

**Lühe.** Aus der Tätigkeit der öffentlichen Wetterdienststelle Bremen. p. 67-72. (März.)

**Naegler, Wilh.** Wärmeeinbruch, Orkan und Hochwasser am Jahreschluss 1925. p. 61-62. (März.)

**Peppler, W.** Die Zukunft der Aerologie. p. 49-57. (März.)

## SOLAR OBSERVATIONS

### SOLAR AND SKY RADIATION MEASUREMENTS DURING APRIL, 1926

By HERBERT H. KIMBALL, Solar Radiation Investigations

For a description of instruments and exposures and an account of the method of obtaining and reducing the measurements, the reader is referred to the REVIEW for January, 1924, 52:42, January, 1925, 53:29, and July, 1925, 53:318.

From Table 1 it is seen that solar radiation intensities averaged above April normals at Washington, and slightly below at Madison and Lincoln. At Washington, a noon reading of 1.53 gr. cal./min./cm.<sup>2</sup>., on the 9th is slightly higher than any intensity heretofore measured at that station in April, and higher than the maximum that has heretofore been measured in any month except March, 1926.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged decidedly above the April normal at all three stations for which normals have been determined. The weekly averages for Chicago are omitted pending a redetermination of the constants of the recording pyrheliometer at that station.

Skylight polarization measurements made at Madison on the 26th, give a polarization of skylight of 60 per cent. At Washington, measurements made on three days give a mean of 65 per cent, with a maximum of 66 per cent on the 16th. These are above the average April values for Washington.

TABLE 1.—*Solar-radiation intensities during April, 1926*

[Gram-calories per minute per square centimeter of normal surface]  
Washington, D. C.

Date	Sun's zenith distance										Local mean solar time
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	
	75th mer. time	Air mass									
e.	5.0	4.0	3.0	2.0	1.1.0	2.0	3.0	4.0	5.0	e.	
mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.	
Apr. 1.....	3.81										2.87
2.....	3.00										2.74
9.....	6.50			1.06	1.25	1.58	1.30				3.81
10.....	3.63			1.08	1.18	1.47					2.49
12.....	2.16			0.96							3.30
15.....	4.37							1.24			3.00
16.....	4.75	0.72		0.97	1.18	1.44					4.37
20.....	2.06	0.79	0.89	1.00	1.10						2.06
21.....	3.99						1.20	0.84			3.45
26.....	3.81					1.11					3.15
27.....	4.17		0.44	0.63	0.90						2.87
29.....	3.99					0.91					3.63
Means.....	(0.76)	(0.66)	0.95	1.09	1.42	1.15					
Departures.....	+6.06	-0.09	+0.07	+0.03	+0.07	+0.06					

### Madison, Wis.

Apr. 5.....	2.16			1.19	1.39	1.60					2.03
8.....	3.15		1.00	1.12	1.30	1.50	1.13				3.00
10.....	3.81						1.07				5.36
12.....	2.87			0.80	1.05						3.00
13.....	2.87				1.16						3.30
15.....	2.36				1.24						2.74
16.....	4.57				1.31	1.52	1.13				3.45
19.....	3.15				1.11	1.33					4.39
26.....	4.17		1.16	1.33							3.45
30.....	5.79					1.22					7.04
Means.....		(1.00)	1.07	1.22	1.43	(1.13)					
Departures.....		-0.04	-0.02	±0.00	+0.07	-0.09					

### Lincoln, Nebr.

Apr. 3.....	2.16		0.95	0.98	1.29	1.51					1.68
12.....	4.57		0.64	0.89	1.17	1.44	1.22	1.03	0.88	0.77	4.17
13.....	4.17	0.65	0.74	0.90	1.15	1.38					4.57
14.....	3.00					1.47	1.28	1.10	0.96	0.85	2.62
15.....	2.36	0.61	0.72	0.96	1.25	1.51	1.20	0.98	0.81	0.72	2.74
18.....	3.63	0.63	0.72	0.88	1.17	1.50	1.17	0.92	0.75	0.60	2.87
19.....	2.74		0.68	0.80	1.28						2.16
28.....	2.62						0.91				2.26
29.....	4.57					1.34					4.57
30.....	8.48	0.52	0.64	0.82	1.04	1.32	1.00	0.79	0.67	0.55	6.76
Means.....		0.60	0.73	0.89	1.19	1.42	1.13	0.96	0.81	0.70	
Departures.....		-0.13	-0.09	-0.09	-0.02	-0.02	-0.04	-0.01	-0.02	±0.00	

<sup>1</sup> Extrapolated.

TABLE 2.—*Solar and sky radiation received on a horizontal surface*

[Gram-calories per square centimeter of horizontal surface]

Week beginning	Average daily radiation					Average daily departure from normal		
	Washington	Madison	Lincoln	Chicago	New York	Washington	Madison	Lincoln
1926								
Apr. 2.....	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
9.....	370	437	358		230	-24	+82	-73
16.....	412	545	533		387	+3	+177	+97
23.....	516	540	564		415	+94	+156	+128
	466	413	500		318	+39	+8	+38
Excess or deficiency since first of year on Apr. 29.....						+693	+1,400	-679